



Department of Energy
 Carlsbad Field Office
 P. O. Box 3090
 Carlsbad, New Mexico 88221

ENTERED



AUG 30 2011

Mr. John Kieling, Acting Chief
 Hazardous Waste Bureau
 New Mexico Environment Department
 2905 Rodeo Park Drive East, Building 1
 Santa Fe, NM 87505-6303

Subject: Review of the Savannah River Site – Central Characterization Project Waste Stream Profile Form Number, SR-W027-221F-HET-A, Revision 1, Contact-Handled Mixed Transuranic Debris Waste From FB-Line

Dear Mr. Kieling:

The Carlsbad Field Office has approved the Waste Stream Profile Form (WSPF) Number, SR-W027-221F-HET-A, Revision 1, Contact-Handled Mixed Transuranic Debris Waste from FB-Line, for the Central Characterization Project at the Savannah River Site. Enclosed is a copy of the WSPF as required by Section C-5a of the Waste Isolation Pilot Plant, Hazardous Waste Facility Permit No. NM4890139088-TSDF.

If you have any questions, please call the Director of the Office of the National TRU Program, Mr. J. R. Stroble, at (575) 234-7313.

Sincerely,

Edward Ziemianski
 Interim Manager

Enclosure

cc: w/enclosure
 T. Hall, NMED *ED
 J. Davis, NMED ED
 S. Holmes, NMED ED

cc: w/o enclosure
 J. R. Stroble, CBFO ED
 N. Castaneda, CBFO ED
 B. Mackie, CBFO ED
 T. Morgan, CBFO ED
 CBFO M&RC

*ED denotes electronic distribution

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Attachment 2 – CCP Waste Stream Profile Form

(1) Waste Stream Profile Number: SR-W027-221F-HET-A ⁵ , Revision 1			
(2) Generator site name: Savannah River Site		(4) Technical contact: Beverly Schrock	
(3) Generator site EPA ID: SC1890008989		(6) Technical contact phone number: 575-234-7444	
(5) Date of audit report approval by New Mexico Environment Department (NMED): February 1, 2002; April 9, 2003; August 27, 2004; April 29, 2005; June 13, 2006; January 11, 2007; February 25, 2008; March 13, 2009; August 6, 2009; March 16, 2010; March 3, 2011			
(7) Title, version number, and date of documents used for WAP Certification: CCP-PO-001, CCP Transuranic Waste Characterization Quality Assurance Project Plan, Revision 20, June 16, 2011; CCP-PO-002, CCP Transuranic Waste Certification Plan, Revision 26, July 14, 2011; CCP-PO-004, CCP/SRS Interface Document, Revision 29, July 5, 2011; CCP-AK-SRS-1, Central Characterization Project Acceptable Knowledge Summary Report for Savannah River Site Waste Stream: SR-W027-221F-HET-A, Revision 17, May 16, 2011			
(8) Did your facility generate this waste? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>			
(9) If no, provide the name and EPA ID of the original generator: NA			
Waste Stream Information			
(10) WIPP ID: SR-W027-221F-HET-A ⁴		(11) Summary Category Group: S5000	
(12) Waste Matrix Code Group: Heterogeneous Debris Waste		(13) Waste Stream Name: Contact-Handled Mixed Transuranic Debris Waste from FB-Line	
(14) Description from the TWBIR: ⁴ This waste stream is primarily solids consisting of booties, lab coats, floor sweeping, labware, rags, and other job control waste. This stream differs from SR-W026 because solvent rags are suspected to be in the waste.			
(15) Defense TRU Waste: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>			
(16) Check One: CH <input checked="" type="checkbox"/> RH <input type="checkbox"/>			
(17) Number of SWBs ³ 109 SWBs 12 SLB2s		(18) Number of Drums 5,649 55-gallon drums	(19) Number of Canisters NA
(20) Batch Data Report numbers supporting this waste stream characterization: See Characterization Information Summary (CIS) Correlation of Container Identification Numbers to Batch Data Report Numbers			
(21) List applicable EPA Hazardous Waste Numbers: ^{1,2} D006, D008, D009, F001, F002 and F005			
(22) Applicable TRUCON Content Numbers: SR 125/225, SR 425 and SQ 154			
(23) Acceptable Knowledge Information			
(For the following, enter the supporting documentation used [i.e., references and dates])			
Required Program Information			
(23A) Map of site: CCP-AK-SRS-1, Revision 17, May 16, 2011, Attachments 1, 2 and 3			
(23B) Facility mission description: CCP-AK-SRS-1, Revision 17, May 16, 2011, Section 4.1.4			
(23C) Description of operations that generate waste: CCP-AK-SRS-1, Revision 17, May 16, 2011, Section 4.3			
(23D) Waste identification/categorization schemes: CCP-AK-SRS-1, Revision 17, May 16, 2011, Section 4.4			
(23E) Types and quantities of waste generated: CCP-AK-SRS-1, Revision 17, May 16, 2011, Section 4.2.1 and 5.4			
(23F) Correlation of waste streams generated from the same building and process, as applicable: CCP-AK-SRS-1, Revision 17, May 16, 2011, Section 4.2.2			
(24) Waste certification procedures: CCP-TP-030, Revision 29, April 26, 2011			
(25) Required Waste Stream Information			

CCP-TP-002, Rev. 23
CCP Reconciliation of DQOs and
Reporting Characterization Data

Effective Date: 12/29/2010

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(25A) Area(s) and building(s) from which the waste stream was generated: CCP-AK-SRS-1, Rev. 17, May 16, 2011, Section 5.1	
(25B) Waste stream volume and time period of generation: CCP-AK-SRS-1, Rev. 17, May 16, 2011, Section 5.2	
(25C) Waste generating process description for each building: CCP-AK-SRS-1, Rev. 17, May 16, 2011, Section 4.3 and 5.3	
(25D) Waste Process flow diagrams: CCP-AK-SRS-1, Rev. 17, May 16, 2011, Figures 4-1 and 4-2	
(25E) Material inputs or other information identifying chemical/radionuclide content and physical waste form: CCP-AK-SRS-1, Rev. 17, May 16, 2011, Section 5.4	
(25F) Waste Material Parameter Weight Estimates per unit of waste: See Table entitled "Waste Stream SR-W027-221F-HET-A Waste Material Parameters" in the Summation of Aspects of AK Summary report: Waste Stream SR-W027-221F-HET-A, Revision 1	
(26) Which Defense Activity generated the waste: (check one)	
Weapons activities including defense inertial confinement fusion	Naval Reactors development
Verification and control technology	Defense research and development
Defense nuclear waste and material by products management	<input checked="" type="checkbox"/> Defense nuclear material production
Defense nuclear waste and materials security and safeguards and security investigations	
(27) Supplemental Documentation	
(27A) Process design documents: NA	
(27B) Standard operating procedures: See P1, P10, P016, P017, P018, P019, P020, P021, P022 and P023 in CCP-AK-SRS-1, Revision 17, Section 8.0	
(27C) Safety Analysis Reports: See D4 in CCP-AK-SRS-1, Revision 17, Section 8.0	
(27D) Waste packaging logs: See M2 in CCP-AK-SRS-1, Revision 17, Section 8.0	
(27E) Test plans/research project reports: See C12 and D5 in CCP-AK-SRS-1, Revision 17, Section 8.0	
(27F) Site databases: NA	
(27G) Information from site personnel: See C13, C22, C26, C030, M4 and M7 in CCP-AK-SRS-1, Revision 17, Section 8.0	
(27H) Standard industry documents: See C18 and D15 in CCP-AK-SRS-1, Revision 17, Section 8.0	
(27I) Previous analytical data: See C12, C27, C029, D025, D026, D027, D028, M3 and M017 in CCP-AK-SRS-1, Revision 17, Section 8.0	
(27J) Material safety data sheets: See M1 in CCP-AK-SRS-1, Revision 17, Section 8.0	
(27K) Sampling and analysis data from comparable/surrogate Waste: NA	
(27L) Laboratory notebooks: NA	
Confirmation Information²	
<i>For the following, when applicable, enter procedure title(s), number(s) and date(s)</i>	
(28)	Radiography: CCP-TP-053, Revision 11, July 20, 2011
(29)	Visual Examination: CCP-TP-113, Revision 16, April 25, 2011

(30) Comments: For a list of the waste characterization procedures used and dates of the respective procedures see the list of procedures on the attached CIS.

Reviewed by AK Expert: YES Date: 7/15/2011

Reviewed by STR (if necessary): YES N/A Date: 7/21/2011

Waste Stream Profile Form Certification:

I hereby certify that I have reviewed the information in this Waste Stream Profile Form, and it is complete and accurate to the best of my knowledge. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

(31) B.S. Schrock
Signature of Site Project Manager

(32) Beverly S. Schrock
Printed Name

(33) 8/9/11
Date

- NOTE:**
- (1) If, radiography, visual examination were used to confirm EPA Hazardous Waste Numbers, attach signed Characterization Information Summary documenting this determination.
 - (2) This WSPF was revised to address the combination of waste streams SR-W027-221F-HET-A, SR-W027-221F-HET-C-D and SR-W027-221F-HET-E into a single waste stream (i.e., SR-W027-221F-HET-A). The revised waste stream added EPA hazardous waste numbers D006 and D009 and removed F003.
 - (3) This waste stream currently consists of 5,649 55-gallon drums, 87 SWBs, 12 SLB2s, and 1 Black Box totaling an estimated 1,449 cubic meters of waste. The waste contained in the Black Box is equivalent to approximately 22 SWBs, which is added to the current population of 87 for a total of 109 SWBs.
 - (4) This waste stream is also associated with the following ATWIR Identification Numbers: SR-W027-221F-HET-C-D and SR-W027-221F-HET-E.
 - (5) Revision 0 of the WSPF included a typo in the waste stream number. The waste stream number should have been identified as SR-W027-221F-HET-A.

CHARACTERIZATION INFORMATION SUMMARY

WSPF #: SR-W027-221F-HET-A Rev. 1

Lot #: 101

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CCP Characterization Information Summary Cover Page

Waste Stream # SR-W027-221F-HET-A Lot #: 101
 AK Expert Review: N/A Date: N/A
 SPM Review: Richard Kantrowitz *RK* Date: 8/3/2011

SPM signature certifies that through Acceptable Knowledge testing and/or analysis that the waste identified in this summary is not corrosive, ignitable, reactive, or incompatible with the TSDF.

A summary of the Acceptable Knowledge regarding this waste stream containing specific information about the corrosivity, reactivity, and ignitability of the waste stream is included as an attachment to the Waste Stream Profile Form. By reference, that information is included in this lot.

List of procedures used:

Radiography (RTR/NDE):

CCP-TP-011	Rev. 13	05/16/02	CCP Radiography Inspection Operating Procedure
CCP-TP-011	Rev. 14	07/31/03	CCP Radiography Inspection Operating Procedure
CCP-TP-011	Rev. 15	03/08/04	CCP Radiography Inspection Operating Procedure
CCP-TP-011	Rev. 16	05/02/05	CCP Radiography Inspection Operating Procedure
CCP-TP-011	Rev. 17	11/16/06	CCP Radiography Inspection Operating Procedure
CCP-TP-053	Rev. 5	11/16/06	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 6	03/04/08	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 7	10/21/09	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 8	06/29/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 9	09/30/10	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 10	03/04/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-053	Rev. 11	07/20/11	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
CCP-TP-136	Rev. 0	09/20/04	CCP Standardized Prohibited Item Remediation
CCP-TP-136	Rev. 1	01/13/05	CCP Standardized Prohibited Item Remediation
CCP-TP-136	Rev. 2	05/04/07	CCP Standardized Prohibited Item Remediation

Headspace Gas Sampling and Analysis (HSG):

CCP-TP-007	Rev. 11	01/28/02	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Procedure
CCP-TP-007	Rev. 12	07/23/02	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Procedure
CCP-TP-007	Rev. 13	09/04/02	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Procedure
CCP-TP-007	Rev. 14	09/26/02	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Procedure
CCP-TP-007	Rev. 15	10/18/02	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Procedure
CCP-TP-007	Rev. 16	02/03/03	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Procedure
CCP-TP-007	Rev. 17	07/29/03	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Procedure
CCP-TP-007	Rev. 18	10/31/03	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Procedure
CCP-TP-007	Rev. 19	03/01/04	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Procedure
CCP-TP-007	Rev. 20	10/19/04	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Procedure
CCP-TP-007	Rev. 21	03/11/05	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Procedure
CCP-TP-007	Rev. 22	11/16/06	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Procedure
CCP-TP-009	Rev. 8	01/30/02	CCP Single Sample Manifold Data Handling Procedure
CCP-TP-009	Rev. 9	09/20/02	CCP Single Sample Manifold Data Handling Procedure
CCP-TP-009	Rev. 10	09/26/02	CCP Single Sample Manifold Data Handling Procedure
CCP-TP-009	Rev. 11	02/05/03	CCP Single Sample Manifold Data Handling Procedure
CCP-TP-009	Rev. 12	06/01/03	CCP Single Sample Manifold Data Handling Procedure
CCP-TP-009	Rev. 13	10/31/03	CCP Single Sample Manifold Data Handling Procedure
CCP-TP-009	Rev. 14	10/21/04	CCP Single Sample Manifold Data Handling Procedure
CCP-TP-009	Rev. 15	11/16/06	CCP Single Sample Manifold Data Handling Procedure
CCP-TP-029	Rev. 7	01/30/02	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Methods and Equipment Calibration
CCP-TP-029	Rev. 8	09/20/02	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Methods and Equipment Calibration
CCP-TP-029	Rev. 9	09/26/02	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Methods and Equipment Calibration
CCP-TP-029	Rev. 10	10/18/02	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Methods and Equipment Calibration
CCP-TP-029	Rev. 11	02/12/03	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Methods and Equipment Calibration
CCP-TP-029	Rev. 12	09/26/03	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Methods and Equipment Calibration
CCP-TP-029	Rev. 13	06/22/04	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Methods and Equipment Calibration
CCP-TP-029	Rev. 14	10/21/04	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Methods and Equipment Calibration
CCP-TP-029	Rev. 15	04/25/05	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Methods and Equipment Calibration
CCP-TP-029	Rev. 16	11/16/06	CCP Single Sample Manifold Headspace Gas Sampling and Analysis Methods and Equipment Calibration
CCP-TP-032	Rev. 6	01/29/02	CCP Single Sample Manifold Data Validation Procedure
CCP-TP-032	Rev. 7	09/20/02	CCP Single Sample Manifold Data Validation Procedure
CCP-TP-032	Rev. 8	09/26/02	CCP Single Sample Manifold Data Validation Procedure
CCP-TP-032	Rev. 9	10/01/02	CCP Single Sample Manifold Data Validation Procedure
CCP-TP-032	Rev. 10	02/03/03	CCP Single Sample Manifold Data Validation Procedure
CCP-TP-032	Rev. 11	12/03/03	CCP Single Sample Manifold Data Validation Procedure
CCP-TP-032	Rev. 12	05/23/06	CCP Single Sample Manifold Data Validation Procedure
CCP-TP-032	Rev. 13	05/25/06	CCP Single Sample Manifold Data Validation Procedure
CCP-TP-032	Rev. 14	11/16/06	CCP Single Sample Manifold Data Validation Procedure

Visual Examination (VE):

SW15.7-SOP-TVEF-01	Rev. 01	09/30/02	TVEF Operations
SW15.7-SOP-Weigh-01	Rev. 01	06/04/01	
CCP-TP-113	Rev. 2	07/15/04	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 3	01/25/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 4	12/22/05	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 5	08/28/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 6	11/16/06	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 7	03/19/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 8	09/04/07	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 9	03/05/08	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 10	07/09/09	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 11	11/12/09	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 12	12/01/08	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 13	03/11/09	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 14	06/29/10	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 15	12/29/10	CCP Standard Waste Visual Examination
CCP-TP-113	Rev. 16	04/25/11	CCP Standard Waste Visual Examination
CCP-TP-085	Rev. 0	08/13/03	CCP TRU Visual Examination Facility Operations
CCP-TP-085	Rev. 1	10/17/03	CCP TRU Visual Examination Facility Operations

CCP Characterization Information Summary Cover Page

CCP-TP-087	Rev. 0	07/15/03	CCP Scale Operations
CCP-TP-087	Rev. 1	12/14/05	CCP Scale Operations
CCP-TP-087	Rev. 2	05/02/06	CCP Scale Operations
CCP-TP-087	Rev. 3	06/19/06	CCP Scale Operations
CCP-TP-087	Rev. 4	11/16/06	CCP Scale Operations
CCP-TP-087	Rev. 5	03/13/07	CCP Scale Operations
CCP-TP-088	Rev. 0	07/16/03	CCP Program Data Generation Level Review for VE
CCP-TP-088	Rev. 1	10/20/03	CCP Program Data Generation Level Review for VE

Data Generation Review (SRS):

WP-AP-0016	02/15/01	WIPP Disposal Program Data Generation Level Review for Visual Examination
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Project Level Data Validation / DQO Reconciliation:

CCP-TP-001	Rev. 7	01/13/03	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 8	02/03/03	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 9	07/10/03	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 10	08/28/03	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 11	03/23/05	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 12	05/25/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 13	07/21/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 14	11/16/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 15	11/22/06	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 16	04/26/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 17	09/24/07	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 18	08/09/10	CCP Project Level Data Validation and Verification
CCP-TP-001	Rev. 19	12/29/10	CCP Project Level Data Validation and Verification
CCP-TP-002	Rev. 8	03/07/02	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 9	06/06/02	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 10	06/19/02	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 11	10/24/02	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 12	04/30/03	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 13	06/27/03	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 14	03/29/05	CCP Reconciliation of DQOs and Reporting Characterization Data
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CCP-TP-002	Rev. 22	06/25/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-002	Rev. 23	12/29/10	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	Rev. 5	03/18/02	CCP Sampling Design and Data Analysis for RCRA Characterization
CCP-TP-003	Rev. 6	03/20/02	CCP Sampling Design and Data Analysis for RCRA Characterization
CCP-TP-003	Rev. 7	06/03/02	CCP Sampling Design and Data Analysis for RCRA Characterization
CCP-TP-003	Rev. 8	08/23/02	CCP Sampling Design and Data Analysis for RCRA Characterization
CCP-TP-003	Rev. 9	10/10/02	CCP Sampling Design and Data Analysis for RCRA Characterization
CCP-TP-003	Rev. 10	12/04/02	CCP Sampling Design and Data Analysis for RCRA Characterization
CCP-TP-003	Rev. 11	01/20/03	CCP Sampling Design and Data Analysis for RCRA Characterization
CCP-TP-003	Rev. 12	01/25/03	CCP Sampling Design and Data Analysis for RCRA Characterization
CCP-TP-003	Rev. 13	06/28/03	CCP Sampling Design and Data Analysis for RCRA Characterization
CCP-TP-003	Rev. 14	09/03/03	CCP Sampling Design and Data Analysis for RCRA Characterization
CCP-TP-003	Rev. 15	11/16/06	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 16	10/02/07	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 17	11/09/09	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-003	Rev. 18	12/29/10	CCP Data Analysis for S3000, S4000, and S5000 Characterization
CCP-TP-005	Rev. 8	09/19/02	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 9	09/26/02	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 10	10/24/02	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 11	02/05/03	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 12	03/26/03	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 13	11/18/03	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 14	11/19/03	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 15	03/31/05	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 16	02/27/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 17	06/06/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 18	11/16/06	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 19	07/08/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 20	11/01/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 21	12/29/10	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 22	04/21/11	CCP Acceptable Knowledge Documentation
CCP-TP-005	Rev. 23	06/30/11	CCP Acceptable Knowledge Documentation
CCP-TP-030	Rev. 6	09/19/02	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 7	01/08/03	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 8	03/26/03	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 9	09/19/03	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 10	12/17/03	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 11	03/28/04	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 12	08/23/04	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 13	11/22/04	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 14	01/26/05	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 15	03/14/05	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 16	04/22/05	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 17	12/29/05	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 18	05/01/06	CCP TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 19	11/16/06	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 20	02/07/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 21	05/21/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 22	07/24/07	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 23	03/12/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 24	08/20/08	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 25	01/22/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 26	05/27/09	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 27	12/14/09	CCP CH TRU Waste Certification and WWIS Data Entry

CCP Characterization Information Summary Cover Page

CCP-TP-030	Rev. 26	05/12/10	CCP CH TRU Waste Certification and WWIS Data Entry
CCP-TP-030	Rev. 29	04/26/11	CCP CH TRU Waste Certification and WWIS Data Entry

WAP Certification:

CCP-PO-001	Rev. 5	02/05/03	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 6	06/11/03	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 7	01/09/04	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 8	03/15/04	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 9	01/14/05	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 10	02/24/05	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 11	03/10/05	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 12	03/22/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 13	11/16/06	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 14	03/28/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 15	08/10/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 16	10/31/07	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 17	06/22/09	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 18	06/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 19	12/29/10	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-001	Rev. 20	06/16/11	CCP Transuranic Waste Characterization Quality Assurance Project Plan

CCP-PO-002	Rev. 7	11/20/03	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 8	01/09/04	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 9	03/15/04	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 10	11/15/04	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 11	02/24/05	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 12	03/10/05	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 13	05/09/05	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 14	2/29/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 15	03/22/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 16	11/16/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 17	11/16/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 18	11/16/06	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 19	05/22/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 20	11/02/07	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 21	01/26/09	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 22	01/12/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 23	04/07/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 24	06/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 25	12/29/10	CCP Transuranic Waste Certification Plan
CCP-PO-002	Rev. 26	07/14/11	CCP Transuranic Waste Certification Plan

CCP-PO-004	Rev. 9	05/09/02	CCP/SRS Interface Document
CCP-PO-004	Rev. 10	06/27/02	CCP/SRS Interface Document
CCP-PO-004	Rev. 11	09/20/02	CCP/SRS Interface Document
CCP-PO-004	Rev. 12	04/08/03	CCP/SRS Interface Document
CCP-PO-004	Rev. 13	08/04/03	CCP/SRS Interface Document
CCP-PO-004	Rev. 14	10/08/03	CCP/SRS Interface Document
CCP-PO-004	Rev. 15	05/24/04	CCP/SRS Interface Document
CCP-PO-004	Rev. 16	09/20/04	CCP/SRS Interface Document
CCP-PO-004	Rev. 17	10/27/04	CCP/SRS Interface Document
CCP-PO-004	Rev. 18	02/09/05	CCP/SRS Interface Document
CCP-PO-004	Rev. 19	03/14/05	CCP/SRS Interface Document
CCP-PO-004	Rev. 20	11/02/05	CCP/SRS Interface Document
CCP-PO-004	Rev. 21	03/31/06	CCP/SRS Interface Document
CCP-PO-004	Rev. 22	11/16/06	CCP/SRS Interface Document
CCP-PO-004	Rev. 23	01/31/07	CCP/SRS Interface Document
CCP-PO-004	Rev. 24	06/28/07	CCP/SRS Interface Document
CCP-PO-004	Rev. 25	05/20/08	CCP/SRS Interface Document
CCP-PO-004	Rev. 26	08/26/08	CCP/SRS Interface Document
CCP-PO-004	Rev. 27	05/22/09	CCP/SRS Interface Document
CCP-PO-004	Rev. 28	12/29/10	CCP/SRS Interface Document
CCP-PO-004	Rev. 29	07/05/11	CCP/SRS Interface Document

CCP Correlation of Container Identification Numbers to Batch Data Report Numbers

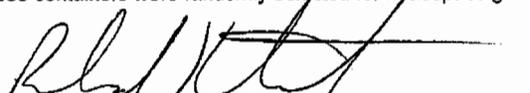
Waste Stream # SR-W027-221F-HET-A

Lot # 101

Container ID Number	NDA BDR	RTR BDR	VE BDR	Solids Sampling BDR	Solids Analytical BDR	Load Management/ Overpack Yes	Headspace Gas BDR(s)			
SR214545**	SRNDA1086	SRRTR1842	N/A	N/A	N/A		082806B1	N/A	N/A	N/A
SR236566**	SRNDA1269	N/A	SRVEFT0012	N/A	N/A		012407A1	N/A	N/A	N/A
SR246578**	SRNDA1274	N/A	SRVEFT0024	N/A	N/A		052507A1	N/A	N/A	N/A
SR541034**	SRNDA845	SRRTR1085	N/A	N/A	N/A		100906A1	N/A	N/A	N/A
SR541335**	SRNDA1112	SRRTR1604	N/A	N/A	N/A		041805A1	N/A	N/A	N/A
SR541339**	SRNDA1029	SRRTR1857	N/A	N/A	N/A		062006A1	N/A	N/A	N/A
SR541351**	SRNDA271	SRRTR0441	N/A	N/A	N/A		031403B	N/A	N/A	N/A
SR542504**	SRNDA1467	SRRTR0181	N/A	N/A	N/A		SRHSGS080005	ECL08019M	ECL08019G	SR07FG3077
SR542550**	SRNDA842	SRRTR1324	N/A	N/A	N/A		063004A1	N/A	N/A	N/A
SR543269**	SRNDA1232	SRRTR0066	N/A	N/A	N/A		011902B	N/A	N/A	N/A
SR543630*	SRNDA228	SRRTR0855	N/A	N/A	N/A		SRHSG1103	ECL11006G	ECL11006M	N/A
SR543645**	SRNDA1866	SRRTR0705	N/A	N/A	N/A		090506A1	N/A	N/A	N/A
SR543691**	SRNDA1126	SRRTR1828	N/A	N/A	N/A		053106A1	N/A	N/A	N/A
SR544272**	SRNDA1616	SRRTR0304	N/A	N/A	N/A		SRHSGS080003	ECL08020M	ECL08020G	SR08FG3123
SR544288**	SRNDA1062	SRRTR1896	N/A	N/A	N/A		081506A1	N/A	N/A	N/A
SR544712	SRNDA794	SRRTR1603	N/A	N/A	N/A		SRHSG1103	ECL11006G	ECL11006M	111506A1
SR546363**	SRNDA1102	SRRTR1919	N/A	N/A	N/A		092006B1	N/A	N/A	N/A
SR546378	SRS-NDA-030220	SRRTR0426	N/A	N/A	N/A		SRHSG1103	ECL11006G	ECL11006M	030503B
SR546580**	SRNDA1555	SRRTR0241	N/A	N/A	N/A		SRHSGS080003	ECL08020M	ECL08020G	SR08FG3057
SR546596**	SRNDA1584	SRRTR0277	N/A	N/A	N/A		SRHSGS080003	ECL08020M	ECL08020G	SR08FG3057
SR548416	SRS-NDA-041115	SRRTR1529	N/A	N/A	N/A		SRHSG1103	ECL11006G	ECL11006M	110804A1
SR548493**	SRNDA1039	SRRTR1879	N/A	N/A	N/A		071706A1	N/A	N/A	N/A
SR557836**	SRS-NDA-021209	SRRTR0362	N/A	N/A	N/A		121502A	N/A	N/A	N/A

* This containers' TRU Alpha Activity Concentration is less than 100 nCi/g and will not be certified for shipment.
 ** These containers were randomly selected for headspace gas and the data are certified in previous Lots.

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 Signature of Site Project Manager

Richard Kantrowitz

Printed Name

8/3/2011

Date

CCP Headspace Gas UCL₉₀ Evaluation Form

WSPF #: SR-W027-221F-HET-A Rev. 1

Waste Stream Headspace Gas Lot 1 through 4
Number

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL ₉₀ (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL ₉₀ > PRQL Yes	EPA Code
Benzene	No	7	23	11.50	2.19	2.38	2.84	10	N/A		
Bromoform	No	0	23	2.40	0.83	0.71	1.03	10	N/A		
Carbon tetrachloride	No	1	23	3.88	1.29	1.04	1.58	10	N/A		
Chlorobenzene	No	1	23	3.73	1.33	1.06	1.62	10	N/A		
Chloroform	SQRT	3	23	1.91	0.97	0.45	1.09	10	3.16		
Cyclohexane ^a	Log	0	8	0.05	-2.56	1.24	-1.94	10	2.30		
1,1-Dichloroethane	No	1	23	3.32	1.47	1.15	1.79	10	N/A		
1,2-Dichloroethane	SQRT	1	23	1.98	1.15	0.64	1.33	10	3.16		
1,1-Dichloroethylene	No	0	23	2.96	1.23	0.96	1.49	10	N/A		
cis-1,2-Dichloroethylene	No	0	23	3.07	1.29	0.95	1.56	10	N/A		
trans-1,2-Dichloroethylene	No	0	23	3.74	1.44	1.12	1.75	10	N/A		
Ethyl benzene	SQRT	2	23	2.01	1.02	0.59	1.18	10	3.16		
Ethyl ether	No	0	23	3.60	1.22	1.00	1.50	10	N/A		
Methylene chloride	Log	6	23	3.71	0.05	1.54	0.47	10	2.30		
1,1,2,2-Tetrachloroethane	No	0	23	3.80	1.40	1.11	1.71	10	N/A		
Tetrachloroethylene	SQRT	0	23	1.97	1.07	0.71	1.26	10	3.16		
Toluene	Log	14	23	3.22	1.20	1.33	1.56	10	2.30		
1,1,1-Trichloroethane	Log	10	23	6.13	0.22	2.42	0.89	10	2.30		
Trichloroethylene	SQRT	0	23	2.18	1.14	0.77	1.35	10	3.16		
Trichlorofluoromethane	Log	0	8	-0.11	-2.58	1.22	-1.97	10	2.30		
1,1,2-Trichloro-1,2,2-trifluoroethane	No	0	23	3.15	1.23	0.95	1.49	10	N/A		
1,2,4-Trimethylbenzene ^a	Log	4	8	-0.36	-1.72	1.18	-1.13	10	2.30		
1,3,5-Trimethylbenzene ^a	Log	3	8	-0.60	-2.20	1.03	-1.69	10	2.30		
m,p-Xylene ^b	No	4	23	3.97	1.41	1.08	1.71	10	N/A		
o-Xylene	SQRT	2	23	1.88	1.03	0.56	1.19	10	3.16		
Acetone	Log	11	23	5.86	2.42	1.87	2.93	100	4.61		
Butanol	SQRT	5	23	4.32	1.98	1.17	2.30	100	10.00		

CIS006

CCP Headspace Gas UCL₉₀ Evaluation Form

WSPF #: SR-W027-221F-HET-A Rev. 1

Waste Stream Headspace Gas Lot 1 through 4
Number

ANALYTE	Transform Data Used (No, Data-Log, SQRT, other)	# Samples above MDL (1)	# Samples	Maximum (ppmv)	Mean (ppmv)	SD (ppmv)	UCL ₉₀ (ppmv)	PRQL (ppmv)	Transformed PRQL (N/A or Value)	UCL ₉₀ > PRQL Yes	EPA Code
Methanol	Log	3	23	4.90	2.18	0.94	2.44	100	4.61		
Methyl ethyl ketone	SQRT	7	23	4.04	2.28	0.88	2.53	100	10.00		
Methyl isobutyl ketone	SQRT	4	23	4.89	2.27	1.45	2.67	100	10.00		
Chloromethane	SQRT	6	8	3.32	1.66	1.20	2.26	10	3.16		
Carbon Disulfide	Log	1	8	-0.16	-2.49	1.26	-1.86	10	2.30		
1,2-Dichloropropane	Log	1	8	-0.43	-2.56	1.36	-1.88	10	2.30		
Formaldehyde ^c	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydrazine ^d	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

^a These compounds are from CCP-PO-003, CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC) and are flammable VOCs that do not appear in CCP-PO-001. These are not part of the target analyte list, but samples may be analyzed for these compounds.

^b These xylene isomers cannot be resolved by the analytical methods employed in the program. m-Xylene and p-Xylene will be reported as "Total m-p-Xylene."

^c Required only for homogenous solids and soil/gravel waste from Savannah River Site.

^d Required only for homogenous solids and soil/gravel waste from Oak Ridge National Laboratory and Savannah River Site.

Comments:

(1) For analytes where there were no samples measured above the MDL value, 1/2 of the MDL value was used. (Per section C4 of the WAP, 1/2 of the MDL value is used in calculating the mean concentration.)

CIS007



Signature of Site Project Manager

Richard Kantrowitz

Printed Name

8/3/2011

Date

CCP Headspace Gas Summary Data

Waste Stream #

SR-W027-221F-HET-A

Lot Number (s)

101

Tentatively Identified Compound	Maximum Observed Estimated Concentrations (ppmv)	# Samples Containing TIC	% Detected
Acetic acid, methyl ester	48.60	1.00	4.35%
2-Pentanone	57.51	1.00	4.35%
1-Pentanol,3,3,4-trimethyl-	13.22	1.00	4.35%
Data Supports EPA Hazardous Waste Numbers Assigned by AK? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
If no, describe the basis for assigning the EPA Hazardous Waste Codes: N/A			

SPM Signature



Date

8/3/2011

CCP RTR/VE Summary of Prohibited Items and AK Confirmation

Waste Stream #: SR-W027-221F-HET-A

Lot #: 101

Container Number	RTR Prohibited Items ^{a,b}	Visual Examination Prohibited Items ^{a,b}
See correlation of container ID numbers for list of remaining drum numbers in this Lot.	None of the containers in this lot had prohibited items identified during RTR.	None of the containers in this Lot had prohibited items identified during Visual Examination technique.
<p>a. See Batch Data Reports</p> <p>b. If AK has assigned U134 to this waste stream, then any liquids in these containers are prohibited items (not acceptable by the TSDF).</p>		
<p>Justification for the selection of RTR and/or VE: RTR was selected as a characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for NDE for waste SR-W027-221F-HET-A. VE was selected as a characterization method for this lot because the waste was repackaged and VE meets all the Data Quality Objectives for NDE for waste SR-W027-221F-HET-A.</p>		



Site Project Manager Signature

Richard Kantrowitz

Printed Name

8/3/2011

Date

CCP Reconciliation with Data Quality Objectives

Waste Stream #: SR-W027-221F-HET-A

Lot #: 101

Sampling Completeness

NDE (RTR&VE):

Number of Valid Samples: 23
Percent Complete: 100 (QAO is 100%)

Number of Total Samples Analyzed: 23

NDA

Number of Valid Samples: 23
Percent Complete: 100 (QAO is 100%)

Number of Total Samples Analyzed: 23

HSG

Number of Valid Samples: 23
Percent Complete: 100 (QAO is $\geq 90\%$)
Number of Valid Samples: 23
Percent Complete: 100 (QAO is $\geq 90\%$)

Number of Total Samples Collected: 23

Number of Total Samples Analyzed: 23

Total VOC

Number of Valid Samples: NA
Percent Complete: NA (QAO is $\geq 90\%$)
Number of Valid Samples: NA
Percent Complete: NA (QAO is $\geq 90\%$)

Number of Total Samples Collected: NA

Number of Total Samples Analyzed: NA

Total SVOC

Number of Valid Samples: NA
Percent Complete: NA (QAO is $\geq 90\%$)
Number of Valid Samples: NA
Percent Complete: NA (QAO is $\geq 90\%$)

Number of Total Samples Collected: NA

Number of Total Samples Analyzed: NA

Total Metals

Number of Valid Samples: NA
Percent Complete: NA (QAO is $\geq 90\%$)
Number of Valid Samples: NA
Percent Complete: NA (QAO is $\geq 90\%$)

Number of Total Samples Collected: NA

Number of Total Samples Analyzed: NA

CCP Reconciliation with Data Quality Objectives

Waste Stream #: SR-W027-221F-HET-A

Lot #: 101

	Y/N/NA	Reconciliation Parameter
1	Y	Waste Matrix Code.
2	Y	Waste Material Parameter Weights.
3	Y	The waste matrix code identified is consistent with the type of sampling and analysis used to characterize the waste.
4	Y	The TRU activity reported in the BDRs for each container demonstrates with a 95% probability that the container of waste contains TRU radioactive waste.
5	N	AK Sufficiency. Is there an approved AK sufficiency Determination for this waste stream?
6	Y	Mean concentrations, UCL ₉₀ values for the mean concentration, standard deviations, and the number of samples collected for each VOC in the HSG of each container were calculated and compared with the program required quantitation limits, as reported in CCP-TP-003 Attachment 3, and additional U.S. Environmental Protection Agency (EPA) Hazardous Waste Numbers were assigned as required. Samples were randomly collected (when appropriate).
7a	NA	Mean concentrations, UCL ₉₀ values for the mean concentration, standard deviations, and the number of samples collected for solids VOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 4, and additional EPA HWNs were assigned as required. Samples were randomly collected.
7b	NA	Mean concentrations, (UCL ₉₀) values for the mean concentration, standard deviations, and the number of samples collected for solids SVOCs were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 5, and additional EPA HWNs were assigned as required. Samples were randomly collected.
7c	NA	Mean concentrations, (UCL ₉₀) values for the mean concentration, standard deviations, and the number of samples collected for total metals were calculated and compared with the program required quantitation limits and regulatory thresholds, as reported in the Characterization Information Summary, CCP-TP-003 Attachment 6, and additional EPA HWNs were assigned as required. Samples were randomly collected.

CCP Reconciliation with Data Quality Objectives

Waste Stream #: SR-W027-221F-HET-A

Lot #: 101

8	Y	The data demonstrates whether the waste stream exhibits a toxicity characteristic under Title 40 Code of Federal Regulations (CFR), Part 261, Identification and Listing of Hazardous Waste, Subpart C, Characteristics of Hazardous Waste.			
9	Y	Does the waste stream contain listed waste found in 20.4.1.200 NMAC incorporating 40 CFR Part 261, Subpart D, Lists of Hazardous Wastes.			
10	Y	Waste stream can be classified as hazardous or nonhazardous at the 90-percent confidence level.			
11	Y	Appropriate packaging configuration and Drum Age Criteria (DAC) is applied and documented in the headspace gas sampling documentation, and the drum age met prior to sampling.			
12	Y	TICs were appropriately identified and reported in accordance with the requirements of Section C3-1 of the QAPjP.			
13	Y	The PRQLs for headspace gas VOCs were met for all analyses as evidenced by the analytical batch data reports.			
14		The overall completeness, comparability, and representativeness QAOs were met for each of the analytical and testing procedures as specified in the WAP Sections C3-2 through C3-9 prior to submittal of a waste stream profile form for a waste steam or waste stream lot.			
			Completeness	Comparability	Representativeness
		Radiography	Y	Y	Y
		VE	Y	Y	Y
		Headspace Gas Analysis	Y	Y	Y
		Solids Sampling	NA	NA	NA
		Solids VOCs	NA	NA	NA
		Solids SVOCs	NA	NA	NA
		Solids Metals	NA	NA	NA


Signature of Site Project Manager

Richard Kantrowitz
Printed Name

8/3/2011
Date

SUMMATION OF ASPECTS OF AK SUMMARY REPORT: SR-W027-221F-HET-A

Overview:

The SR-W027-221F-HET-A waste stream consists of mixed Contact Handled (CH) transuranic (TRU) debris waste generated and managed by the Savannah River Site (SRS). The primary mission of the SRS has been to support national security as a major source of reactor-produced materials, including plutonium, uranium, neptunium, and other special nuclear materials for weapons manufacturing. This waste was generated in the FB-Line facility where dilute plutonium solutions were concentrated and purified into plutonium metal for weapons use. All radioactive solid waste produced at SRS is stored or disposed of at the E-Area Radioactive Waste Burial Ground (RWBG) and Solid Waste Management Facility (SWMF).

This waste stream consists of TRU mixed debris waste generated in support of Department of Energy (DOE) defense nuclear materials production activities. The FB-Line was a defense nuclear materials production facility.

This Summation of the AK Summary Report includes information to support Waste Stream Profile Form (WSPF) number SR-W027-221F-HET-A, Rev. 1 for mixed heterogeneous debris waste from SRS. The WSPF was originally approved on March 28, 2002. This WSPF was revised to address the combination of waste streams SR-W027-221F-HET-A, SR-W027-221F-HET-C-D, and SR-W027-221F-HET-E into a single waste stream (i.e., SR-W027-221F-HET-A). These three waste streams shared the same physical description, radiological characterization, the same or similar chemical characterization, and were generated from the same process (i.e., concentration and refinement of plutonium in the FB-Line). The revised waste stream added Environmental Protection Agency (EPA) hazardous waste numbers (HWNs) D006 and D009 and removed HWN F003. The justification for these HWN changes is documented in the subsequent text. This Summation is based on report CCP-AK-SRS-1, Central Characterization Project Acceptable Knowledge Summary Report For Savannah River Site, Waste Stream: SR-W027-221F-HET-A, Rev. 17, May 16, 2011.

Waste Stream Identification Summary:

Waste Stream Name:	Contact Handled Mixed Transuranic Debris Waste from FB-Line
Waste Stream Number:	SR-W027-221F-HET-A
Waste Stream Volume – Current:	5,649 55-gallon drums 109 standard waste boxes (SWBs) ¹ 12 standard large box 2s (SLB2s)
Waste Stream Volume – Projected:	None

¹ This waste stream currently consists of 5,649 55-gallon drums, 87 SWBs, 12 SLB2s, and 1 Black Box totaling an estimated 1,449 cubic meters of waste. The waste contained in the Black Box is equivalent to approximately 22 SWBs, which was added to the current population of 87 for a total of 109 SWBs.

Dates of Waste Generation: March 7, 1986 to January 25, 1990

Summary Category Group: S5000

Waste Matrix Code Group: Heterogeneous Debris Waste

Waste Matrix Code: S5400

TRUCON Content Numbers: SR 125/225, SR 425, SQ 154

Annual Transuranic Waste Inventory Report

Identification Numbers: SR-W027-221F-HET-A
SR-W027-221F-HET-C-D
SR-W027-221F-HET-E

Waste Stream Description and Physical Form:

Waste stream SR-W027-221F-HET-A was generated from glovebox operations, decontamination and removal (D&R), housekeeping, maintenance, and construction operations. The waste consists mostly of dry heterogeneous organic debris by volume with the balance being mainly comprised of inorganic debris. Examples of organic debris constituents include plastic, personnel protective equipment (e.g., shoe covers, lab coats, plastic suits), wipes, labware, wood, paper, spent resin from anion and cation exchange columns, leaded rubber gloves, and other job control type waste. The waste includes inorganic debris such as metal components (e.g., hand tools, motors, small equipment), glass, floor sweepings, and absorbent materials. The waste also includes filters which are a combination of organic and inorganic materials. In addition, small quantities of poly bottles (100 milliliters, 500 milliliters, 2 liter) containing immobilized liquids are also present (e.g., oil absorbed on Celite, Oil-Dri, or NOCHAR).

The waste stream meets the definition of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity. Based on a review of AK documentation and SRS waste management practices, one debris waste stream has been delineated for the FB-Line between March 7, 1986 and January 25, 1990.

Point of Generation:

Location

Waste stream SR-W027-221F-HET-A was generated at SRS in Aiken, South Carolina. The waste is currently stored at the SRS RWBG and SWMF.

Area and/or Building of Generation

Waste stream SR-W027-221F-HET-A was generated at the FB-Line facility which is located inside the F-Canyon Building in the 200-F Separations Area.

Generating Processes:

Description of Waste Generating Processes

This waste stream was generated in the FB-Line in a process involving concentration and refinement of dilute plutonium solutions to solid plutonium buttons usable in weapons production and in associated support operations (e.g., maintenance).

Primary Process

Plutonium isotopes were separated from uranium isotopes, fission products (primarily cesium-137, strontium-90, zirconium-95, niobium-95, ruthenium-103, and ruthenium-106) and chemical impurities (primarily iron, aluminum, sodium, sulfate, and sometimes fluoride ions) in the FB-Line. Purified plutonium isotopes contained in a dilute nitric acid and hydroxylamine nitrate solution were transferred to the FB-Line where it was processed to either plutonium metal or plutonium oxide form. Underlying principles of FB-Line finishing operations are explained in terms of extractive metallurgy. The initial unit operations (i.e., concentration of plutonium nitrate by cation exchange, precipitation of plutonium as a trifluoride, filtration, and washing) are best described as hydrometallurgical operations. The remaining unit operations (i.e., warm air drying, oxidation, and reduction with calcium metal to purified plutonium metal form) are pyrometallurgical operations.

The Primary Process was divided into the following process steps:

- Cation Exchange
- Precipitation and Filtering
- Drying and Conversion
- Reduction
- Plutonium Metal Finishing
- Recovery (includes Solid Scrap Dissolution, Solution Recycle, and Solution Collection)

Maintenance, Decontamination and Removal (D&R), and Housekeeping Operations

Maintenance and D&R operations conducted on the FB-Line include the following:

- Lead-lined glove replacements (periodically and as needed)
- Repair of leaks on a weekly or more frequent basis
- Filter change-outs (including changing plastic frits on precipitation filters)
- Changing panels on cabinets and huts
- Equipment repair (valve replacements, etc.)

- Inspection and cleaning of exhaust ducts to remove any plutonium accumulation (during January 1990 shutdown)
- Change-out of cation and anion exchange resins
- Removal and replacement of contaminated equipment, such as the M-12 cabinet.

Routine housekeeping operations conducted on the FB-Line include the following:

- Sump clean out
- Floor sweeping, including separation of plutonium and calcium residues
- Calcium disposal
- Absorption of liquids
- Construction, breakdown, and disposal of huts adjacent to cabinets
- Bagging trash out of gloveboxes and cabinets.

All of these operations generated TRU and/or low-level waste during the late 1980s.

The following table identifies the RCRA toxicity characteristic and listed constituents identified in this waste stream.

Toxicity Characteristic and Listed Constituents in Waste Stream SR-W027-221F-HET-A

Chemical	EPA HWN(s)
1,1,1-Trichloroethane	F002
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon)	F001, F002
Cadmium	D006
Lead	D008
Mercury	D009
Methyl ethyl ketone	F005
Methylene chloride	F002
Toluene	F005
Trichloroethylene	F002

RCRA Determinations – Hazardous Waste Determinations

Historical Waste Management

Waste stream SR-W027-221F-HET-A has been historically managed as hazardous in accordance with the generator site requirements and in compliance with the requirements of the South Carolina Department of Health and Environmental Control. Based on historical waste management, the original SRS Environmental Protection Agency (EPA) hazardous waste number (HWN) assignments included additional toxicity characteristic and listed codes (i.e., D001, D003, D004, D007, D018, D019, D022, D023, D024, D025, D026, F003, P012, P015, P048, P113, P120, U002, U032, U052, U080, U133, U134, U144, U151, U154, U161, U209, U211, U220, U226, and U239). However, a review of available AK documentation has determined that these additional HWNs do not apply to this waste stream. Therefore, only the HWNs summarized below will be assigned to the containers in this waste stream.

Ignitability

This waste does not exhibit the characteristic of ignitability as defined in Title 40 Code of Federal Regulations (CFR) 261.21. Ignitable liquids (e.g., acetone, butanol, toluene) and oxidizers (e.g., aluminum nitrate, hydroxylamine nitrate) were used in FB-line operations. However, the waste is not a liquid, an ignitable compressed gas, or an oxidizer, and is not capable of causing fire through friction, absorption of moisture, or spontaneous chemical change. FB-Line operating procedures directed that ignitable characteristics were removed (through treatment or absorption) before waste was packaged and transported to the solid waste storage facility. Therefore, this waste does not exhibit the characteristic of ignitability (D001) (References M2, M9, M10, M11, M014, M016, M017, M021, M022, M023, M024, M026, P11, P13, P14, and P15).

Corrosivity

This waste does not exhibit the characteristic of corrosivity as defined in 40 CFR 261.22. Corrosive liquids were used in FB-line operations and some examples include hydrofluoric acid, nitric acid, and sulfuric acid. However, this waste does not contain liquids. FB-Line operating procedures directed that residual acids in TRU waste be neutralized, and any corrosive characteristics were removed (through absorption or neutralization) before waste was packaged and transported to the solid waste storage facility. Therefore, this waste does not exhibit the characteristic of corrosivity (D002) (References M2, M9, M10, M11, M014, M016, M017, M021, M022, M023, M024, M026, P11, P13, P14, and P15).

Reactivity

This waste does not exhibit the characteristic of reactivity as defined in 40 CFR 261.23. Oxidized calcium from the Mechanical Line was placed in special metal 1-gallon waste calcium pails, taped shut, and placed in five-gallon metal containers, which were themselves covered with Celite. Sweepings that might have contained calcium were placed in a container, covered with sand, and sealed with a taped-on lid. However, in 2002 SRS evaluated the granular form of calcium metal used in FB-Line and determined that it does not meet the definition of ignitability or reactivity. Therefore, the waste will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. The waste does not contain reactive cyanide or sulfide compounds. FB-Line operating procedures directed that reactive characteristics were removed before waste was packaged and transported to the solid waste storage facility. Therefore, this waste stream does not exhibit the characteristic of reactivity (D003) (References C028, D025, D026, D027, D028, DR008, M2, M9, M10, M11, M014, M016, M017, M021, M022, M023, M024, M026, P11, P13, P14, and P15).

Toxicity Characteristic

This waste stream exhibits the characteristic of toxicity per 40 CFR 261.24. The toxicity characteristic contaminants fall into two categories; metals and organics. Where a constituent has been identified and there is no or limited quantitative data available to demonstrate that the concentration of a constituent is below the regulatory threshold level, the applicable EPA HWN is applied to the waste stream.

Based on the evaluation of the AK source documentation, this waste stream contains or is contaminated with toxicity characteristic metals. The original revision of this WSPF only identified the presence of lead contamination. However, an evaluation of AK source documentation determined that cadmium and mercury are also present in this waste stream. Cadmium (D006) was identified as a component of shielding for cation exchange columns and sheeting, and it was detected in process liquids. Lead (D008) was identified as a component of aprons, bricks, gloves, and shielding, and it was detected in process liquids. Mercury (D009) was identified as a potential contaminant of thermometers and manometers. Arsenic and chromium were evaluated and the associated HWNs were not assigned. Reviewed AK documentation did not identify a source or use for these compounds or the presence of these compounds in waste from FB-Line generated between March 7, 1986 and January 25, 1990. Therefore, EPA HWNs D006, D008, and D009 are assigned to the waste stream (References C6, C7, C12, C24, C029, D8, DR009, M2, M3, P1, P2, P11, P14, and P15).

The waste stream does not exhibit the characteristic of toxicity for organic compounds as defined in 40 CFR 261.24. Container specific TRU Waste Package Data forms did not apply organic toxicity characteristic EPA HWNs to any of the waste from FB-Line generated between March 7, 1986 and January 25, 1990, nor were any of the organic toxicity characteristic chemicals or commercial chemical products containing these chemicals part of the detailed waste descriptions. Other reviewed AK documentation did not identify a source or use for any toxic organic compounds or the presence of these compounds in the waste. The only exceptions were methyl ethyl ketone and trichloroethylene which were assigned the more specific F-listed HWNs (see below) (References M2, M9, M10, M11, M014, M016, M017, M021, M022, M023, M024, and M026).

F-Listed Waste

This waste stream was mixed with or derived from F-listed hazardous wastes from non-specific sources as listed in 40 CFR 261.31. F001, F002, F003, and F005 listed solvents were utilized in the FB-Line and could potentially contaminate the waste. F003 constituents including acetone, butanol, cyclohexanone, ethyl acetate, methanol, and xylenes were used in the operations that generated this waste, and the original revision of this WSPF assigned HWN F003. However, these solvents are listed solely because they are ignitable in the liquid form. The waste stream is not liquid and does not exhibit the characteristic of ignitability; therefore, F003 is not assigned. F-listed solvents 1,1,1-trichloroethane, Freon, methylene chloride, methyl ethyl ketone, toluene, and trichloroethylene were used for degreasing, housekeeping (e.g.,

cleaning equipment), and were detected in process liquids. EPA HWNs F001 (Freon), F002 (1,1,1-trichloroethane, Freon, methylene chloride, trichloroethylene), and F005 (methyl ethyl ketone, toluene) are assigned to this waste stream (References C1, C5, C6, C7, C13, DR012, M1, P1, P5, P11, P13, P14, and P15).

K-, P-, U-Listed Chemicals

This waste stream does not include any of the manufacturing process wastes from the specific industries or sources listed in 40 CFR 261.32.

This waste stream was not mixed with a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof as defined in 40 CFR 261.33. No P- or U-listed wastes were identified on the container specific TRU Waste Package Data forms for the FB-Line waste generated between March 7, 1986 and January 25, 1990. Reviewed AK documentation did not identify the use or disposal of P-listed chemicals in the FB-Line. In addition, chemical control procedures and process documents indicate that the amount of chemicals taken into the cabinets was limited to the minimum amount required to complete a task, and that attempts were always made to use the entire amount of the chemical. Therefore, the chemicals were used for their intended purposes and were not disposed of as pure or unused chemical product (References M2, M9, M10, M11, M014, M016, M017, M021, M022, M023, M024, M026, P4, P5, and P12).

Based on a review of the AK documentation, beryllium (e.g., beryllium powder) was not included in this waste stream. Any beryllium present would be a result of incidental contamination. Therefore, EPA HWN P015 is not assigned to the waste stream (References M2, M9, M10, M11, M013, M014, M016, M017, M021, M022, M023, M024, M026, P4, P5, and P12).

Hydrofluoric acid was used in FB-Line operations including the precipitation and filtering and solution recycle operations. However, hydrofluoric acid was used for its intended purposes and was not disposed of as pure or unused chemical product. Therefore, EPA HWN U134 is not assigned to the waste stream (References M2, M9, M10, M11, M013, M014, M016, M017, M021, M022, M023, M024, M026, P4, P5, and P12).

Therefore, this waste stream is not assigned K-, P-, or U-Listed EPA HWNs.

Headspace Gas/Volatile Organic Compound Information

Headspace gas analysis was completed on 23 randomly selected containers in Lot 101 of this waste stream. Three tentatively identified compounds were identified (i.e., acetic acid, methyl ester; 2-pentanone; and 1-pentanol,3,3,4-trimethyl-). However, no new EPA HWNs were assigned as a consequence of headspace gas sampling and analysis. No UCL₉₀ values exceeded the respective target analyte Program Required Quantitation Limits. The specifics of this information are included in the attached Characterization Information Summary report.

Other Waste Streams generated From the Same Buildings and Processes

Currently five other waste streams from the FB-Line facility have been identified. They are assigned different HWNs and the explanation is provided below:

Debris waste from the FB-Line generated prior to March 6, 1986 has been approved and shipped under the CCP program under waste stream SR-W027-FB-Pre86-C. The FB-Line debris waste was delineated into separate waste streams based on time of generation, waste processing/management, and the original delineation documented in the SRS chapter of the historical Transuranic Waste Baseline Inventory Report (TWBIR). Therefore, this earlier waste stream is assigned additional HWNs D005, D007, D011, D018, D019, D022, D029, D039, D040, D043, F003, U002, and U151.

Debris waste from the FB-Line generated after January 25, 1990 to the present has been approved and shipped under the CCP program under waste stream SR-W026-221F-HET. The FB-Line debris waste was delineated into separate waste streams based on time of generation, waste processing/management, and the original delineation documented in the SRS chapter of the historical TWBIR. Therefore, this later waste stream is assigned additional HWNs D007, D022, D028, D029, and F003.

Homogeneous waste from the FB-Line generated July 1979 to December 2005 will be approved and shipped under the CCP program under waste stream SR-W026-221F-HOM. Because this waste stream was generated from the same areas as debris waste streams SR-W027-FB-Pre86-C, SR-W027-221F-HET-A, and SR-W026-221F-HET, and the homogeneous waste stream includes a combination of absorbed wastes and debris materials, the same HWNs applicable to these debris waste streams were also applied to waste stream SR-W026-221F-HOM. Therefore, this waste stream is assigned additional HWNs D005, D007, D011, D019, D022, D028, D029, D043, and U151. Based on regulatory clarifications, HWNs D018, D039, D040, F001, and U002 were not assigned to this waste stream.

Debris waste from the FB-Line generated October 1977 to March 2006 has been approved and shipped under the CCP program under waste stream SR-W026-221F-HEPA. Because this waste stream was generated from October 1977 to March 2006, information from debris waste streams SR-W027-FB-Pre86-C, SR-W027-221F-HET-A, and SR-W026-221F-HET was considered. Therefore, this waste stream is assigned additional HWNs D005, D007, D011, D019, D022, D028, D029, and D043. Based on regulatory clarifications, HWNs D018, D039, D040, F001, U002, and U151 were not assigned to this waste stream.

Debris waste from the FB-Line generated June 2004 to November 2005 will be approved and shipped under the CCP program under waste stream SR-W026-221F-HET-A. This waste stream characterizes a small population of containers from specific F-Canyon and FB-Line operations. The characterization was based on container paperwork and contaminants present in the Mechanical Line operation. Therefore, this waste stream is assigned additional HWNs D007, D011, D019, D022, D028, and D029. Based on a regulatory clarification, HWN F001 was not assigned to this waste stream.

Conclusion

The EPA HWNs that apply to this waste stream are D006, D008, D009, F001, F002, and F005.

Polychlorinated Biphenyls (PCBs)

Based on a review of AK documentation, the potential for PCB contamination of TRU waste from the FB-Line is expected to be limited. However, repackaging operations have identified the presence of PCBs in debris waste from the FB-Line (reference waste stream SR-W026-221F-HET). Therefore, containers with PCB waste, identified during real-time radiography (RTR) or visual examination (VE), will be regulated as Toxic Substances Control Act waste under 40 CFR 761 and managed in accordance with the PCB disposal requirements in the WIPP Waste Acceptance Criteria (References C15, C16, M2, M4, M5, M7, and M8).

Prohibited Items

Prohibited items potentially present in this waste stream include prohibited quantities of both containerized (e.g., unpunctured aerosol cans) and uncontainerized liquid and sealed containers greater than 4 liters. Prior to shipment to WIPP, RTR or VE will be performed on the payload containers. Any prohibited item found will be remediated prior to shipment to WIPP.

Justification for the Selection of Radiography or Visual Examination

Containers in this waste stream were characterized using RTR and VE. RTR was selected as a characterization method for this lot because the waste was previously packaged and RTR meets all the Data Quality Objectives for Nondestructive Examination (NDE) for the waste stream. VE was selected as a characterization method for this lot because the waste was repackaged and VE meets all the Data Quality Objectives for NDE for the waste stream.

Method for Determining Waste Material Parameters (WMPs) Weights Per Unit of Waste

To estimate the WMP weight percentages for waste stream SR-W027-221F-HET-A, data were obtained from the Waste Data System, formerly known as the WIPP Waste Information System, as of October 3, 2006. The waste material parameter data were derived from RTR and VE of FB-Line debris waste by the current TRU Waste Certification Program at SRS. The WMP data is presented below.

Waste Stream SR-W027-221F-HET-A Waste Material Parameters

Waste Material Parameter	Average Weight Percent	Weight Percent Range
Iron-based Metals/Alloys	15.42%	0.0 - 98.86%
Aluminum-based Metals/Alloys	0.80%	0.0 - 97.84%
Other Metals	0.14%	0.0 - 81.84%
Other Inorganic Materials	6.47%	0.0 - 95.14%
Cellulosics	8.90%	0.0 - 98.72%
Rubber	6.14%	0.0 - 96.39%
Plastics (waste materials)	62.08%	0.0 - 100%
Organic Matrix	0.03%	0.0 - 36.00%
Inorganic Matrix	0.03%	0.0 - 57.47%
Soils/gravel	<0.01%	0.0 - 3.48%

List of AK Sufficiency Determinations

There are no sufficiency determination requests for this waste stream.

Transportation

This waste stream and its chemical constituents have been reviewed for consistency with listed TRUCON codes and they are consistent.

Beryllium

Beryllium will not be present in amounts greater than 1% by weight of the waste in each payload container.

Radionuclide Information

FB-Line obtained plutonium solution from F-Canyon that was converted into purified weapons-grade plutonium metal which was approximately 93.05 – 95.00 weight percent Pu-239 and 5.70 – 5.96 weight percent Pu-240. Therefore, the two predominant radionuclides for this waste stream are Pu-239 and Pu-240. The following table summarizes the general FB-Line plutonium isotopic distribution applicable to the 1986-1990 transuranic waste.

General FB-Line Plutonium Isotopic Distribution

Isotope	Isotopic Range Weight Percent
Pu-238	0 - 0.21
Pu-239	93.05 - 95.00
Pu-240	5.70 - 5.96 (weighted average)
Pu-241	0 - 0.75 (weighted average)
Pu-242	0 - 0.10
U-233	Trace
U-234	Trace
U-238	0 - 0.01
Sr-90	Trace
Cs-137	Trace
Am-241	0 - 0.18
Trace = < 0.01 weight percent	

Payload management will not be applied to this waste stream.

AK Source Documents Used

- C1 Memo, M. Ebra to H. Fincher and J. McClard re: FB-Line TRU Waste Characterization, 11/22/88.
- C2 Memo from O.M. Morris to M.G. O'Rear; date: November 9, 1988; Subject: Materials List Data Requirements for TRUPACT II Authorized Payload Compliance Plan.
- C3 Memo from M.A. Ebra to H.W. Fincher and J.W. McClard; date November 8, 1988; Subject: FB-Line TRU waste Characterization Data.
- C4 Acceptable Knowledge Interview Record of M. Reuis by G. Lunsford, 4/20/99.
- C5 Summary of Solvent Rag Correspondence.
- C6 Interview of C. Allgood by J. Whitworth, 12/20/00.
- C7 Interview of FB-Line Personnel by J. Whitworth and J. Harrison, 1/16/01.
- C8 Memo from N. Dienes re: Specifications for plutonium shipped to the Rocky Flats, 3/22/85.
- C9 Memo from Thomason to Bellamy re: Impact of Proposed Change in Pu Isotopics on FB-Line Low Level Waste Radioisotope Characterization, 5/30/96.
- C10 Interview of S. Mentrup by J. Whitworth, 12/11/00.
- C11 Letter from O. Morris to M.G. O'Rear re: Nonradionuclide Inventory Data for WIPP Performance Assessment Activities - Revision 1, 12/01/98.
- C12 Summary of Correspondence on Dewatering Effort.
- C13 Interview with P. Spitzer and M. Bell by J. Whitworth and J. Harrison, 12/11/00.
- C14 Interview with D. Gartland by J. Whitworth, 12/20/00.
- C15 Letter from T. Hendrick to M. Sires re: PCBs used in electrical equipment, 5/12/82.
- C16 Memo from J. Roberts to R. Whitfield re: PCB inventory changes during Calendar Year 1984, 6/28/85.
- C17 Memo from K. Steeg to many re: Squib Igniters Used in "Halex" Halon Fire Suppression, 2/2/99.
- C18 Memo from T. Wickland to A. Caudill re: NFT and NucFil Equivalency, 1/10/01.
- C19 Correspondence from G. Molen to D. Berry re: FB-Line Pu Isotopic Distribution, 8/18/97 (transmitted via email to G. Lunsford).
- C20 Interview with A. Gibbs by J. Whitworth and W. Estill, March 6, 2001.
- C21 Memo re: FB-Line Low-Level Waste Smear Analysis Results Evaluation, November 13, 1995; from R.S. Thomason and K.D. Steeg to L.E. Rykken.

- C22 Interview with Pam Griffin, SRS by J. Whitworth and W. Estill, October 9, 2001.
- C23 Record of Communication Interview with J. (Chip) McClard by G. Lunsford re: Use of (trans) – 1, 2 Dichloroethylene or Formaldehyde in FB-Line from 1986 to Present, September 19, 2001.
- C24 Summary of SRS Correspondence and Data on Fluorescent Light Bulbs, February 6, 1995.
- C25 Interview with A. Gibbs, SRS by J. Whitworth, re: chromium use at SRS TRU waste generator sites. (ASTM Procedure C1267 "Uranium Fe²⁺ Reduction in Phosphoric Acid followed by Chromium Titration in the Presence of Vanadium"), March 27, 2002.
- C26 Interview and Record of Communication with M. Boolish, Eveready, by T. Burns and W. Estill; subject: Mercury content in Batteries, 4/1/02.
- C27 Record of Communication with M. Percy by W. Estill; subject: Summary of confirmation activities pertaining to 1986 to 1990 FB-Line Waste, 10/15/02.
- C028 Westinghouse Savannah River Company Interoffice Memorandum from J.V. Odum to C.B. Stevens. Subject: Facility Support Section (FSS) Analysis of TRU Waste Codes on FB-Line TRU Wastes. ESH-FSS-2002-00041, 02/27/02.
- C029 E-mail from Tim Bair Regarding Broken Fluorescent Light Tubes, 12/18/04.
- C030 Record of Communication - Interview of Chip Harris, FB-Line Engineer, 01/10/2002.
- C031 WIPP Hotline number 130, Re: Resin Debris Waste, 10/12/2000.
- C032 Evaluation of Volume, Period Generation, and Calculation of Individual and Total Radionuclide Masses and Activities for Waste Stream SR-W027-221F-HET-A, December 15, 2010.
- C033 Evaluation of Seven Drums for Addition to Waste Stream SR-W027-221F-HET-A, April 15, 2011.
- D1 WSRC-IM-91-53, Controlled Copy 1992 Renewal Application for a RCRA Part B Permit (U), Revision B, 12/21/93 (unpublished).
- D2 WSRC-TR-94-0608, Savannah River Site - Mixed Waste Approved Site Treatment Plan, Volume II, Revision 4, 4/15/96.
- D3 WSRC-RP-95-884, SRS Data Preparation for the 1995 WIPP TRU Waste Baseline Inventory Report, Mixed Waste Inventory Report, and Integrated Database, Revision 0, 10/31/95.
- D4 DPST-88-48-33, Technical Standard for the Management of Radioactive Waste at the Savannah River Project Storage/ Disposal Facilities, 643-7, 643-29G, 709-2G, Revision 1, 3/10/89.
- D5 DPST-86-449, The FB Line Facility – A Training Aid Document, Revised 12/7/94.

- D6 DOE/CAO-95-1121, TRU Waste Baseline Inventory Report, Revision 2, 12/95.
- D7 OSR3-158, SRS Atlas Including Off-Site Location and Building Index, Revision A, 1/95.
- D8 DPSTSA-200-10, SUPP-9, Safety Analysis – 200 Area SRP FB-Line Operations, Science Applications International Corporation, 4/88.
- D9 DP SOP-40, SRP Radiation Contamination and Control, Revision 77, E.I. DuPont DeNemours and Company Atomic Energy Division, Savannah River Plant, 9/86.
- D10 WSRC-RP-95-897, Solid Heterogeneous Job Control Waste Raw Material Characterization, Revision 1, 10/27/97.
- D11 Audit Report Number W88-5, Waste Acceptance Criteria Certification Committee Audit Report, 4/29/88.
- D12 Audit Report Number W89-6, Waste Acceptance Criteria Certification Committee Audit Report, 9/25/89 – 9/28/89.
- D13 WIPP/DOE-120, Quality Assurance Requirements for Certification of TRU Waste for Shipment to the Waste Isolation Pilot Plant, Revision 2, 8/88.
- D14 WIPP/DOE-069, TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant, Revision 3, 1/89.
- D15 DPSP 84-17-1, Savannah River Certification Plan for Newly Generated, Contact-Handled Transuranic Waste, Revision A, 6/5/87.
- D16 SRT-WED-93-0222, Response to DOE Request for Status on Procurement and Disposal of Yellow Pigmented Items at SRS, 8/27/93.
- D17 Action Plan for the Resumption of TRU Waste Shipments to the Solid Waste Disposal Facility, SRS. WER-VP-92-0136, 10/06/92.
- D18 Air Force Center for Environmental Excellence: Battery Disposal Fact Sheet, <http://www.afcee.brooks.af.mil/pro-act/fact/july97.asp> , July, 1997, U.S. Air Force.
- D19 SRP Waste Content Code Information for TRUPACT-II Certificate of Compliance, January, 1989.
- D20 NUREG/CR-5550, Passive Nondestructive Assay of Nuclear Materials, March 1991, Nuclear Regulatory Commission.
- D21 WSRC-RP-93-01102, FB Line Basis for Interim Operation, Rev. 0, September 23, 1994.
- D22 WSRC-TR-94-0288, Radioisotope Characterization of FB-Line Low-Level Waste (U), July 14, 1994.
- D23 Waste Characterization Sample Evaluation Guidance (U); WSRC-RP-95-530, Rev. 0, 5/3/95.

- D024 Specific Chemical Forms for WIPP Performance Assessment and Finalization of Chemical Lists Submitted for TRUPACT-II SAR. June 9, 1989.
- D025 RFETS Waste Stream Profile Form RF009.01, Rev. 0, 06/12/01.
- D026 RFETS Waste Stream Profile Form RF032.01, Rev. 0, 05/02/03.
- D027 Backlog Waste Reassessment Baseline Book, Waste Form 34 Pyrochemical Salts, 01/24/02.
- D028 Backlog Waste Reassessment Baseline Book, Waste Form 59 Calcium Metal and Sand, Slag, and Crucible, 10/14/04.
- D029 DPSTSA-200-10, SUPP-8, Safety Analysis – 200 Area Savannah River Plant Burial Ground Operations.
- D030 DPSTSY-200-10, Systems Analysis – 200 Area Savannah River Plant: JB-Line Operations, February 27, 1979.
- DR1 AK Source document Discrepancy Form for Source Document Tracking Number DR1 re: Waste Code Assignments, 5/21/2002.
- DR2 AK Source Document Discrepancy Form for Source Document Tracking Number DR2 re: F-Listed Solvents, 9/11/2001.
- DR3 AK Source Document Discrepancy Form for Source Document Tracking Number DR3 re: Waste Code Assignments, 9/11/2001.
- DR4 AK Source Document Discrepancy Form for Source Document Tracking Number DR4 re: Isotopic Distributions, 9/11/2001.
- DR5 AK Source Document Discrepancy Form for Source Document Tracking Number DR5 re: Hazardous Waste Codes, 9/11/2001.
- DR6 AK Source Document Discrepancy Form for Source Document Tracking Number DR6 re: Hazardous Waste Code Assignment, 9/24/2001.
- DR007 Discrepancy Resolution – Waste Stream Re-assignment, 4/10/2005.
- DR008 Acceptable Knowledge Source Document Discrepancy Resolution, Calcium Reactivity, 7/18/06.
- DR009 Acceptable Knowledge Source Document Discrepancy Resolution, Fluorescent Light Tubes, 10/17/06.
- DR010 Discrepancy Resolution for S3000 Drums Being Removed from the S5000 Waste Stream, 5/27/2007.
- DR012 Acceptable Knowledge Source Document Discrepancy Resolution, Combining Waste Streams SR-W027-221F-HET-A, SR-W027-221F-HET-C-D, and SR-W027-221F-HET-E, 4/27/2011.
- M1 Materials Safety Data Sheets, SRS Shrine System

- M2 TRU Waste Data Packages, March 7, 1986-January 1990.
- M3 Water Sampling Results from Dewatering Efforts, 1995.
- M4 PCB Committee Meeting Minutes, Meeting No. 1, July 14, 1981.
- M5 AK Tracking Spreadsheet, Rev. 2
- M6 Spreadsheet of Vent and Purge Data, filename "1999 Vent Data" sheet "nonretrieval."
Author: M. Clary
- M7 Notes on WAC Rev. 7 Compliance Radioisotope Characterization of FB-Line (U), After October 7, 1999.
- M8 Problem Identification Report re: Inaccurate Acceptable Knowledge Reports, 2002-PIR-26-0036, July 18, 2002.
- M9 Evaluation of Additional Containers for SRS-1 Waste Stream SR-W027-221F-HET-A, 3/1/04.
- M10 Evaluation of 23 Additional Containers for SRS-1 Waste Stream SR-W027-221F-HET-A, 5/5/04.
- M11 BGR/TWPD/Quick Scan Forms for Drum Additions.
- M012 Acceptable Knowledge Payload Management Calculations for CCP-SRS AK Reports 1 through 7, Blair Becker.
- M013 Acceptable Knowledge Beryllium Assessment for CCP-SRS AK Reports 1 through 7, Blair Becker.
- M014 SRS Inventory Update, 8/31/05.
- M015 Evaluation of Additional Containers for SRS-1 Waste Stream SR-W027-221F-HET-A (FB-Line), 7/14/06.
- M016 Burial Ground Records and Transuranic Waste Package Data Forms for 7/14/06 Drum Additions.
- M017 BGRs, TWPDs, NCR-SRS-0517-03, and SRS Fast Scans for 03/12/2007 Drum Additions.
- M018 Evaluation of 13 Additional Containers for SRS-1 (FB-Line) Waste Stream SR-W027-221F-HET-A, 03/12/2007.
- M019 RTR Quick Scan Data Sheets for 2 Drums in the SR-W027-221F-HET-A Waste Stream on 03/12/2007.
- M020 Evaluation of 10 Additional Containers for SRS-1 (FB-Line) Waste Stream SR-W027-221F-HET-A, 12/26/2007.

Waste Stream Profile Form: SR-W027-221F-HET-A, Rev. 1

- M021 BGRs, TWPDs, and SRS RTR Quick Scan Data Sheets for 10 Drum Additions to the HET-A Waste Stream on 12/26/2007.
- M022 Evaluation of Additional Containers for SRS-1 Waste Stream SR-W027-221 F-HET-A, 6/9/2009.
- M023 Evaluation of Additional Containers for SRS-1 (FB-Line) Waste Streams SR-W027-221F-HETA, HET-C-D, and HET-E, 8/3/2009.
- M024 Container Paperwork for 221F-Box Waste and 221F-Box Spreadsheet. Various.
- M026 Paperwork for Additional Waste Stream SR-W027-221F-HET-A Containers and Spreadsheet. Various.
- P1 221-FB-2502-NS, Packaging General and Cabinet Waste into Red Pails, Revisions 1 and 4, 12/87 and 2/11/92.
- P2 DPSOL-221-FB-2514, Waste Tracking Procedure, Revision 2, 4/91.
- P3 221-FB-2508-NS, Packing and Handling HEPA Filter Waste (UCNI), Revision 2, 8/89.
- P4 SOP 221-FB-2544, Controlled Procurement and Handling of Chemical and Blue Dot Products, Revision 0, 10/16/90.
- P5 DPSOL 221-FB-2500, Introducing or Removing Material through Bag Ports, Revision 1, 9/1/89.
- P6 SOP 221-FB-2502-B-NS, Transporting, Assaying, and Storing Red-Pail Waste (U), Revision 0, 5/1/92.
- P7 SOP 221-FB-1167-NS, Removing Oil from Mechanical Line Hydraulic Sumps, Revision 4, 11/21/91.
- P8 SOP 221-FB-1125-NS, Handling Mechanical Line Cabinet Sweepings, Revision 21, 4/12/91.
- P9 SOP 221-FB-1166, Handling and Weighing of Calcium, Revision 7, 1/14/92.
- P10 SOP 221-FB-1515, Constructing a Plastic Hut (UCNI), Revision 15, 7/5/91.
- P11 DPSOL 221-FB-2506-NS, Packaging TRU Waste (Excluding Process Cabinet Waste) into a TRU Drum Liner, Revision 5, 9/89.
- P12 Procedure Manual SI-1-1, Item 7.02 Chemical Control Program in FB Line Facilities, Revision 1, 1/2/96.
- P13 SOP 221-FB-2502-A-NS, Packaging General and Cabinet Waste into a Red Pail, Revision 0, 3/26/92.
- P14 DPSOL 221-FB-2504-NS, Drumming Red Waste Pails and Shipment to Burial Ground, Revision 4, 9/18/89.

- P15 SOP 221-FB-2505-NS, Packaging TRU (Process Cabinet) Waste into a TRU Drum Liner, Revision 0, 8/14/91.
- P016 221-F-55006, TRU Drum Repackaging, Revision 31, 3/18/2010.
- P017 SOP 221-F-55008, Black Box Repackaging, Revision 4, 6/16/2005.
- P018 221-F-55012, Absorbing Containerized Liquids, Revision 9, 3/11,2010.
- P019 NOP 221-H-8252, Absorbing Containerized Liquids, Revision 1, 12/10/2009.
- P020 NOP 221-H-8826, Transuranic (TRU) Waste Repackaging in H-Canyon, Revision 11, 12/10/2009.
- P021 SW15.3-SOP-BKBOX-06, SWMF Blackbox Repackaging, Revisions 0 and 1, 8/31/2006 and 11/18/2006.
- P022 SW15.3-SOP-FTRU-01, F Canyon Container Transfer, Revision 3, 3/3/2010.
- P023 SW15.3-SOP-HTRU-02, Shipment Preparation for TRU Containers to SWMF, Revision 1, 2/17/2010.